

# Course Syllabus

## CPSC 4620 Section 2 Spring 2021



### Section Meeting Times

Sect	Meeting Time	Meeting Location
002	10:10AM – 11:00AM MWF	Barnes 100

### Course Instruction Staff

Professor Taylor, Professor of Practice [connie2@clemson.edu](mailto:connie2@clemson.edu) (don't use gmail account!!)

Office: 210 McAdams

Office hours: 3:30–4:15 MWF via physical office, or connect with me on Microsoft Teams (messaging system) – see info below on Teams; also, by appointment if needed

TA, Jacob Stauch

Office: TBD

Office hours: TBD

### Course Description

CPSC 4620 will provide an introduction to database/data communications concepts as related to the design of online information systems. Problems involving structuring, creating, maintaining, and accessing multiple-user databases are presented and solutions developed. Comparison of several commercially available teleprocessing monitor and database management systems is made. This course will focus on the design and use of relational databases and Structured Query Language (SQL).

### Course Objectives –

1. Students shall understand conceptual modeling concepts and be able to use ER Model to design databases.
2. Students shall be familiar with relational data models and be able to design relational database schemas from ER diagrams.
3. Students shall be able to use an industry standard query language (SQL) to query the relational databases.
4. Students shall gain experience in designing and implementing database systems.
5. Students will be able to create and work with applications that store and retrieve data from relational databases.
6. Students will understand basic security issues with relational databases, and be familiar with common solutions to those security issues.
7. Students will be able to differentiate between relational databases, object oriented databases, XML databases, and NOSQL databases.

### Prerequisites

CPSC 2120 and CPSC 2150, each with a grade of C or higher

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### Required Course Materials

- I will use the textbook for lessons and homework, Database Systems by Coronel/Morris, 11<sup>th</sup> Edition, ISBN: 9781285196145. You could manage without the book, but it would be a great reference for assignments, etc.
- Microsoft Team access; download Microsoft Teams for your laptop at <https://office365.clemson.edu> and log in using your [username@clemson.edu](mailto:username@clemson.edu) credentials.
- You are required to have a functioning laptop computer with webcam and microphone for this course with a broadband internet connection. You are also encouraged to have a working set of headphones with a microphone for engaging via remote technologies, especially in situations where privacy may be warranted.
- We will be using an AWS Educate account for the project as well as Python.

### Communication

- Lecture: lectures will originate from class and will be simulcast via Zoom for those students who have Online Only access granted. Zoom can be accessed via the link on Canvas or via <https://clemson.zoom.us>. If you have difficulties with accessing the audio/visual components of Zoom (e.g., your internet service cuts out), you should connect with the dial-in number so you are able to listen to audio for the class. Lecture slides will be posted in PDF format on Canvas and classes will be recorded.
- Office Hours: Office hours for the instructor and TAs will be held using Microsoft Teams or Zoom (see details above). We will respond to students during office hours on a first-come, first-serve basis.
- Seeking Help: If you have a general question related to the course (e.g., on a lecture topic or assignment) please post in the general Discussion on Canvas. This is the preferred way to ask for help on an assignment.
- Email: All email to the instructor or TA must come from your Clemson email address. If you email the teaching staff, please allow one full business day to respond to your email. Do not use Canvas to send email. Note, the teaching staff will not correspond to your parents or guardians about your class performance.

### Grade Distribution

%	Grade
90-100	A
80-89	B
70-79	C
60-69	D

Clemson's grading system is described under General Information at <http://catalog.clemson.edu>.

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### Grading Rubric

ASSIGNMENT		POINTS	Num of Assignments	Pts per Assignment
Project	30%	300	4	75
Quizzes	15%	150	15	10
Homework	15%	150	15	10
Midterm Exam	15%	150	1	150
Final Exam	20%	200	1	200
Attendance	5%	50	1	50

### Assignments

Major assignments have been briefly described below. More specific details for each assignment, including expectations and grading criteria, will be provided in Canvas as the course progresses:

**Project:** There will be a project to create a database and build an application that uses the database. This will be an individual assignment and have four parts that will build upon each other. Late submissions will not be accepted and will receive a grade of zero (0). It is best to complete and submit an assignment early rather than risk last-minute complications. We may not be able to answer all the emailed questions that are sent within the 24-hour period preceding the due date of an assignment. Please get started early on assignments and take advantage of instructor's and TA's office hours.

**Quizzes:** There will be a quiz for each chapter/section. Quizzes will be online through Canvas, and will be available for a limited time, with a few questions meant to take 15 or 20 minutes to complete. You will be able to use your notes on these quizzes, but you will not have enough time to search for every answer. Any discussion of the quiz before the deadline to submit it will be considered an academic integrity infraction.

**Homework:** There will be homework problems for each chapter/section. Late homework will be accepted up to 3 days past the due date, but points will be deducted from the grade.

**Exams:** There will be a midterm exam and any student that misses an exam without prior approval or valid medical emergency will receive a grade of zero (0). Exams will be administered on Canvas.

**Final Exam (ONLINE April 30, 3pm-5:30pm):** We will have a cumulative final exam in this course. If you have three or more final exams on the same day, let me know and we may be able to move your exam to a different time. The final exam time is set by the University and we cannot change the time of the final exam. There may be final exam exemptions for this course. The Final exam will be administered on Canvas. Any student that misses an exam without prior approval or valid medical emergency will receive a grade of zero (0).

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### Class Schedule (Subject to Change)

CLASS	DATE	TOPIC
1	6-Jan	Syllabus Review
2	8-Jan	Ch 1 - Why Databases?
3	11-Jan	
4	13-Jan	
5	15-Jan	Ch 7 - Intro to SQL
6	20-Jan	Ch 2 - Data Models
7	22-Jan	
8	25-Jan	
9	27-Jan	Ch 3 - Relational Database Model
10	29-Jan	
11	1-Feb	
12	3-Feb	Ch 4 - ER Modeling
13	5-Feb	
14	8-Feb	
15	10-Feb	Ch 5 - Advanced Data Modeling
16	12-Feb	
17	15-Feb	
18	17-Feb	Ch 6 - Normalization
19	18-Feb	
20	19-Feb	
21	22-Feb	Ch 8 - Advanced SQL
22	24-Feb	
23	26-Feb	
24	1-Mar	Ch 9 - Database Design
25	3-Mar	
26	5-Mar	
27	8-Mar	Ch 10 - Transaction Mgmt/Concurrency
28	10-Mar	
29	12-Mar	
30	22-Mar	Ch 11 - Database Perf Tuning/Optimization
31	24-Mar	
32	26-Mar	
33	29-Mar	Ch 12- Distributed DB Systems
34	31-Mar	
35	2-Apr	
36	5-Apr	Ch 13 - BI and Data Warehouses
37	7-Apr	
38	9-Apr	
39	12-Apr	Ch 14 - DB and the Web
40	14-Apr	
41	16-Apr	
42	19-Apr	Ch 15 - DB Administration
43	21-Apr	
44	23-Apr	
EXAM	30-Apr	Exam Review
		EXAM 3pm-5:30pm

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### Participation

The course will be in class with some students online. I will expect you to participate actively during the class whether you are virtual or in person. Participation is for the duration of the class or until you have been excused by the instructor.

### Submission of Work

Each assignment will list due dates and delivery instructions. Work should be submitted via the submission program specified for each assignment. You may not use email to submit any work unless the submission program is not operational. In that case, please email your course instructor (by the assignment deadline) and include 1) a screenshot of the malfunction of the submission system and 2) your work. You are responsible for ensuring that your work was submitted correctly via the submission utility. Grades will be available through Canvas.

### Assignment late policy

Students should speak with their course instructors regarding any scheduled absence as soon as possible and develop a plan for any make-up work. In the event of an emergency, the student should make direct contact with the course instructor, preferably before a class or an exam/quiz takes place. It is the student's responsibility to secure documentation of emergencies, if required.

### Re-Grade Requests

A student may request a regrade of an assignment within 7 days of the assignment feedback being returned or posted, regardless of whether a student is present in class. For a re-grade request, a student should email their course instructor with a detailed justification for the re-grade. Please note your lecture instructor will regrade your entire assignment. Thus, your re-grade could result in a higher or lower grade.

### Attendance, Late Instructor & Inclement Weather Policies

Regular and punctual attendance for this class is critical. I start the semester with 50 points of attendance credit for each student and attendance credit will not be deducted if you are in the classroom during the attendance check in the first five minutes of the class. I will expect you in class if you have not opted for Online only OR communicated with me a valid reason for absence. For those attending class online, you must have your full name listed in Zoom and be able to turn on your webcam. For a student who reports testing positive or is being asked to quarantine because of exposure to the virus, it will be up to the student to inform the instructor that they will be moving to online only instruction for at least the next two weeks. Students should use the [Notification of Absence form](#) in Canvas for this notification, which can be found under the "Help" button on the left navigation. Additional communication via email is encouraged; students should follow up with their instructor to develop a continued plan of study for each course. Students will not be penalized in their grade for needing to move to online instruction.

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Any exam that was scheduled at the time of a class cancellation due to inclement weather, University power outage, etc. will be given at the next class meeting unless contacted by the instructor. Any assignments due at the time of a class cancellation due to inclement weather will be due at the next class meeting unless the instructor contacts students. Any extension or postponement of assignments or exams must be granted by the instructor via email or Canvas within 24 hours of the weather-related cancellation. If the instructor is more than 15 minutes late to class and has not posted an announcement via Canvas, you may leave the in-person or virtual class.

### Changes

Lecture topics are subject to change. The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

### Health & COVID-19 Policies

While on campus, face coverings are required in all buildings and classrooms. Face coverings are also required in outdoor spaces where physical distance cannot be guaranteed. Please be familiar with the additional information on the [Healthy Clemson](#) website, such as the use of wipes for in-person classes. If an instructor does not have a face covering or refuses to wear an approved face covering without valid accommodation, students should notify the School of Computing director, Dr. Amy Apon [aapon@clemson.edu](mailto:aapon@clemson.edu). If a student does not have a face covering or refuses to wear an approved face covering without valid accommodation, the instructor will ask the student to leave the academic space and may report the student's actions to the [Office of Community & Ethical Standards](#) as a violation of the Student Code of Conduct. If the student's actions disrupt the class to the extent that an immediate response is needed, the instructor may call the Clemson University Police Department at 656-2222.

### Time Zones

CPSC 2910 will be delivered in real-time. In case of emergencies in which the university is closed and classes are delivered remotely, please be aware the times listed for class are in the Eastern Time Zone.

### Academic Integrity

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. You may not reuse any submissions from another course for any assignments in this class without prior written permission from the instructor. Questions related to course assignments and the academic honesty policy should be directed to the instructor. Collaboration policies will be posted on each assignment.



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### Device Usage Policy

Please silence your devices and do not text or play games in class. Attendance will be taken using a web-based system; please be prepared to enter in the day's attendance code. Note that you may be required to have your laptop for in-class quizzes, exams, or activities. Make sure your laptop is charged and ready to go for class.

### Accessibility

Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to a class should let the professor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848 or by emailing [studentaccess@lists.clemson.edu](mailto:studentaccess@lists.clemson.edu). Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: <http://www.clemson.edu/campus-life/campus-services/sds/>.

### Anti-Discrimination Policy

Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veteran's status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972.

The University is committed to combatting sexual harassment and sexual violence. As a result, you should know that University faculty and staff members who work directly with students are required to report any instances of sexual harassment and sexual violence, to the University's Title IX Coordinator. What this means is that as your professor, I am required to report any incidents of sexual harassment, sexual violence or misconduct, stalking, domestic and/or relationship violence that are directly reported to me, or of which I am somehow made aware. There are two important exceptions to this requirement about which you should be aware:

1. Confidential Resources and facilitators of sexual awareness programs such as "Take Back the Night and Aspire to be Well" when acting in those capacities, are not required to report incidents of sexual discrimination.
2. Another important exception to the reporting requirement exists for academic work. Disclosures about sexual harassment, sexual violence, stalking, domestic

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and/or relationship violence that are shared as part of an academic project, a research project, classroom discussion, or course assignment, are not required to be disclosed to the University's Title IX Coordinator.

This policy is located at <http://www.clemson.edu/campus-life/campus-services/access/title-ix/>. Ms. Alesia Smith is the Clemson University Title IX Coordinator and the Executive Director of Equity Compliance. Her office is located at 110 Holtzendorff Hall, 864.656.3181 (voice) or 864.565.0899 (TDD), and email address is [alesias@clemson.edu](mailto:alesias@clemson.edu).

### Academic Continuity Plan

Clemson indicates disruptions to physical facilities (including classrooms) via email and SMS notifications. If the Clemson administration notifies you of a disruption (other than inclement weather closures, which abide by the policy listed above), class will be conducted online via Canvas (<http://clemson.instructure.com>). More details regarding academic continuity may be found at: <http://www.clemson.edu/online/elearning/index.html>

### Campus Safety

Clemson University is committed to providing a safe campus environment for students, faculty, staff, and visitors. As members of the community, we encourage you to take the following actions to be better prepared in case of an emergency:

- Ensure you are signed up for emergency alerts (<https://www.getrave.com/login/clemson>),
- Download the Rave Guardian app to your phone (<https://www.clemson.edu/cusafety/cupd/rave-guardian/> )
- Learn what you can do to prepare yourself in the event of an active threat (<https://www.clemson.edu/cusafety/EmergencyManagement/> )

### Copyright Notice

Materials used in the course may be copyrighted and are intended for use only by students registered and enrolled in the course for the duration of the course. They may not be retained in another medium or disseminated further. Copyrighted materials are provided in compliance with the provisions of the Teach Act. Please be familiar with the Fair Use Guidelines at <http://www.clemson.edu/library/reference/qrr/patents.html>